

Regulatory Guide Periodic Review

Regulatory Guide Number: 1.190, Revision 0

Title: Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence

Office/Division/Branch: NRR/DSS/SNPB
Technical Lead: Benjamin Parks

Staff Action Decision: Reviewed with issues identified for future consideration

1. What are the known technical or regulatory issues with the current version of the Regulatory Guide (RG)?

Known issues include:

- a. Lack of guidance, in Regulatory Position 1.4, for appropriate qualification of a synthetic method whereby fluence from two or more calculational methods is added together.
 - i. Could be resolved by clarifying that RG does not address such an approach, and that such an approach would need to be justified on an application-specific basis
- b. Lack of guidance clarifying what is an “approved” fluence method, and what elements comprise an acceptable reactor vessel neutron fluence calculational framework
 - i. Could be clarified by adding a statement in the introduction to Regulatory Position 1 clarifying that all items addressed in Reg. Position 1 comprise required elements of the calculational framework, and additional language limiting “approved” finding to generically approved or approved on a calculation-specific basis
- c. Lack of reflection that most recent nuclear data set is no longer includes ENDF/B-VI and BUGLE-96, as asserted by RG 1.190
 - i. Could be addressed by adding reference to ENDF/B-VII and BUGLE-BVII and stating that prior nuclear data sets may still be considered acceptable, provided they are adequately justified.

2. What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?

Internal stakeholder impacts include more staff effort to review newer methods and applications that do not adhere to the elements of the guidance identified above. External stakeholder impacts include licensee adoption of methods that they believe adhere to RG 1.190 guidance, but actually do not. Also, the number of applications for operating reactors that are anticipated to be received in the next 1-2 years using this methodology is very low.

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- 3. What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?**

100 staff hours for development. Probable use of contractor resources, and another 80 staff hours to administer the contract. Numbers are very rough estimates.

- 4. Based on the answers to the questions above, what is the staff action for this guide (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?**

Reviewed with issues identified for future consideration.

- 5. Provide a conceptual plan and timeframe to address the issues identified during the review.**

Begin the revision process as contractor resources become available.

NOTE: This review was conducted in April 2013 and reflects the staff's plans as of that date. These plans are tentative and are subject to change.